

REMARKS

Claims 1-4, 7-12, and 15-21 are pending in the current application.

Claim Rejections – 35 U.S.C. § 112

Claims 1-4, 7-12, and 17-21 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

The Examiner asserts Applicants specification fails to support the limitations “a mechanical force is applied” in claims 1 and 2. Page 9, lines 18-21 (lines 8-5 counting from the bottom) of Applicants’ originally filed specification read as follows: “In scanning a surface of a thin film with an atomic force microscope, a probe of the microscope applies force on the thin film in two directions: perpendicular to the film plane, and along the scan direction of the probe”. Applicants respectfully submit, the limitation “a mechanical force is applied” found in claims 1 and 2 is supported at least by page 9, lines 18-21 of Applicants’ originally filed specification. Accordingly, Applicants respectfully submit claims 1-4, 7-12, and 17-21 do satisfy the written description requirement of §112, first paragraph.

Therefore, Applicants respectfully request the rejection of claims 1-4, 7-12, and 17-21 under §112, first paragraph be withdrawn.

Claim Rejections – 35 U.S.C. § 102

Claims 1-4, 7-8 and 19-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Foster et al. (US 4,916,688, hereinafter “Foster”). Applicants respectfully traverse this rejection.

Claim 1 recites: "mechanical force is applied in a scanning direction so that the crystals and/or molecules are oriented in the scanning direction". Foster fails to teach this limitation.

Foster teaches a technique in which an electric force (tunneling electron current) is applied with the use of a tip 11 of an STM so as to record or delete information. Specifically, Foster teaches applying a voltage to a crystalline sample (recording medium) with the use of tip 11, when data is written in. This generates heat due to electric resistance of the sample. The sample is melted by the heat and changes to an amorphous state from a crystalline state. (Abstract, and col. 3, lines 35-65). Accordingly, Foster teaches a technique whereby the change in the crystal structure is caused by heat. However, Foster fails to teach that a crystal structure and/or an orientation direction of molecules of the film are/is controlled in the scanning direction by applying **a mechanical force**, as claim 1 requires. Consequently, Foster fails to teach every element of claim 1, or any claims depending from claim 1, as is required to support a rejection under §102.

Further, claim 2 contains limitations at least somewhat similar to those of claim 1. Consequently, at least by virtue of the similarity between claim 1 and claim 2, Foster fails to teach every element of claim 2, or any claims depending from claim 2, as is required to support a rejection under §102

Claim Rejections – 35 U.S.C. § 103

Claims 9-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Foster in view of Dietzel et al. (US 6,665,258, hereinafter "Dietzel"). Applicants respectfully traverse this rejection.

The deficiencies of Foster are discussed above and are relevant here because claims 9 and 11 depend from claim 1, and claims 10 and 12 depend from claim 2. Dietzel teaches only an embodiment in which a voltage is applied to a sample (recording medium) with the use of a tip so as to make a hole in the sample by heat generated by the application of voltage. Accordingly, Dietzel fails to remedy the deficiencies of Foster at least because Dietzel likewise fails to teach that a crystal

structure and/or an orientation direction of molecules of the film are/is controlled in the scanning direction by applying a **mechanical force**, as claims 1 and 2 require. Consequently, neither Foster, nor Dietzel, alone or in combination teach each of the limitations in either of any claims 9-12 as is required to support a rejection under §103.

Therefore, Applicants respectfully request the rejection of claims 9-12 under 35 U.S.C. § 103(a) be withdrawn.

Claims 17-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Foster in view Marks et al. (US 2005/0147846, hereinafter "Marks"). Applicants respectfully traverse this rejection.

First, MPEP § 1893.03(b) (8th ed., Rev. 7, 2008) states the following:

An international application designating the U.S. has two stages (international and national) with the filing date being the same in both stages. Often the date of entry into the national stage is confused with the filing date. It should be borne in mind that the filing date of the international stage application is also the filing date for the national stage application. Specifically, **35 U.S.C. 363** provides that

An international application designating the United States shall have the effect, from its international filing date under Article 11 of the treaty, of a national application for patent regularly filed in the Patent and Trademark Office except as otherwise provided in section **102(e)** of this title.

Applicants note, the international PCT application filing date of the instant application is September 11, 2003 which predates the December 10, 2004 US filing date of Marks, and the December 10, 2003 US filing date of related provisional application No. 60/528,325. Accordingly, Applicants respectfully submit, Marks does not qualify as a prior art reference with respect to the instant application under §103(a).

Further, the deficiencies of Foster are discussed above and are relevant here because claim 17 depends from claim 1, and claim 18 depends from claim 2. Marks fails to remedy these deficiencies at least because Marks likewise fails to teach that a crystal structure and/or an orientation direction of molecules of the film are/is controlled in the scanning direction by applying **a mechanical force**, as claims 1 and 2 require. Consequently, neither Foster, nor Marks, alone or in combination teach each of the limitations in either of claims 17 and 18 as is required to support a rejection under §103.

Therefore, Applicants respectfully request the rejection of claims 17-18 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-4, 7-12 and 17-21 in connection with the present application is earnestly solicited.


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Donald J. Daley at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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By


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